UNION CARBIDE

# NUCLEAR DIVISION NEWS

A Newspaper for Employees of the Nuclear Division, Union Carbide Corporation

Vol. 4 — No. 22 November 15, 1973

## QUESTION BOX ??

*If you have questions on company policies, benefits, etc. or any other problems with which we might help, just let us know. Drop your inquiry to the Editor,* Nuclear Division News. *(Or telephone it in to your plant news representative.) You may or may not sign your name. It will not be used in the paper.*

*Questions are referred to the proper authorities for accurate answers. Each query is given serious consideration for publication.*

*Answers may be given to employees personally if they so desire.*

**QUESTION:** Why is Management so reluctant to find and right inequities such as job classification, salaries, etc? It seems that an employee has one of two alternatives if he feels affected.

1. He can use the arm of such programs as Affirmative Action and have his inequities righted or at least brought to focus; or

2. He can sit quietly by hoping he will someday be discovered and maybe brought into perspective.

**ANSWER:** There is a third alternative which has been demonstrated to be a much more practical and satisfactory approach. An employee with a job classification or salary problem should talk with his supervisor and outline the problem with all the facts. He should request the supervisor to review the situation and provide him with a solution or an explanation. The supervisor will be able to focus his knowledge and that of his management on the problem and will normally utilize the services of the Wage and Salary Office.

Management is anxious to find and correct inequities or misunderstandings which are causing problems. An employee who avails himself of the suggested course of action will find that he can obtain an answer.

**QUESTION:** I would like to know why monthly personnel are permitted to leave the plant during the lunch break to go home for lunch or to eat at a restaurant in Oak Ridge, while the weekly people are told that this is not allowed. It seems to me that this policy is inequitable.

**ANSWER:** Weekly-salaried employees may leave the plant during their nonpaid scheduled lunch period but must be back at work on time at the end of the lunch period unless approval has been obtained from supervision for an exception in a specific instance. Some monthly-salaried employees do leave the plant to eat lunch occasionally, often in connection with business meetings. Their work schedule is more flexible since they are permitted to and do often work outside regular hours with no extra compensation.

**QUESTION:** With the current energy shortage, what efforts are being made to implement mass transit from Knoxville and Oak Ridge to our plants? Many of the employees feel that plans are not being developed when the energy crisis, compounded by the Middle-East war and vanishing national resources, is threatening our only transportation to work.

**ANSWER:** At present, we are not aware of any plans for a mass transit effort from Knoxville and Oak Ridge to our facilities. Bus service from the city of Oak Ridge to the plants was furnished for many years. It was discontinued because of the failure of employees to use the service.

We are all concerned about the current energy crisis. One way in which energy resources could be conserved is through the use of car pools. Our plants are working on programs to interest employees in car pools, and the value of car pools is being emphasized in articles appearing in Nuclear Division News.

**QUESTION:** Please spell out the Company policy concerning reductions in force for weekly clerical employees. I've noticed that there have been voluntary RIFs given to some clerical employees where there are some who have been denied RIFs. It seems to me that clerical employees could be shifted around so that it would not be necessary to either give reductions or hire any new employees. Surely, though, what is fair for one employee should be fair and equal for all like employees.

**ANSWER:** The necessity for reduction in force occurs when a surplus of personnel exists in certain classifications or skill areas. A "voluntary" RIF is the terminology applied in the event of volunteers for termination in those classifications or skill areas identified as being surplus to our needs.

There have been some clerical-type employees who have been given RIF notices and some similarly skilled volunteers have been approved for RIF terminations. These personnel worked in positions that did not require typing or

(Continued on page 8)

## Fourth week United Way drive report shows Nuclear Division beyond goal

The United Way drive for the Nuclear Division (Oak Ridge plants) ended during the first week of November. Although the final summary report has not yet been issued, computations to date show that we attained 104 percent of the $367,000 goal!

The UCC-ND corporate gift of $15,000 brought total contributions to $381,771. The check was presented by Roger Hibbs, president of the Nuclear Division, to James Young, chairman of the 1973 United Way drive in Anderson County.

A breakdown of contributions follows:

ORGDP — $80,186 (115 percent of goal)

General Staff — $30,757 (110 percent of goal)

Y-12 Plant — $135,493 (104 percent of goal)

ORNL — $118,004 (85 percent of goal)

Five major counties are supported through the United Way contributions of Nuclear Division employees.

From the 1973 campaign, contributions will be distributed between the counties as follows:

| | |
|---|---|
| Anderson County | $201,126 |
| Knox County | 89,967 |
| Loudon County | 15,349 |
| Morgan County | 10,769 |
| Roane County | 44,449 |
| Others | 2,780 |

Nuclear Division employees are commended for their cooperation in making this year's drive a success. Without the time and dedication of some and the unselfish contributions of many, the goal would not have been reached.

Thanks to you, Carbiders, it is working — The United Way.

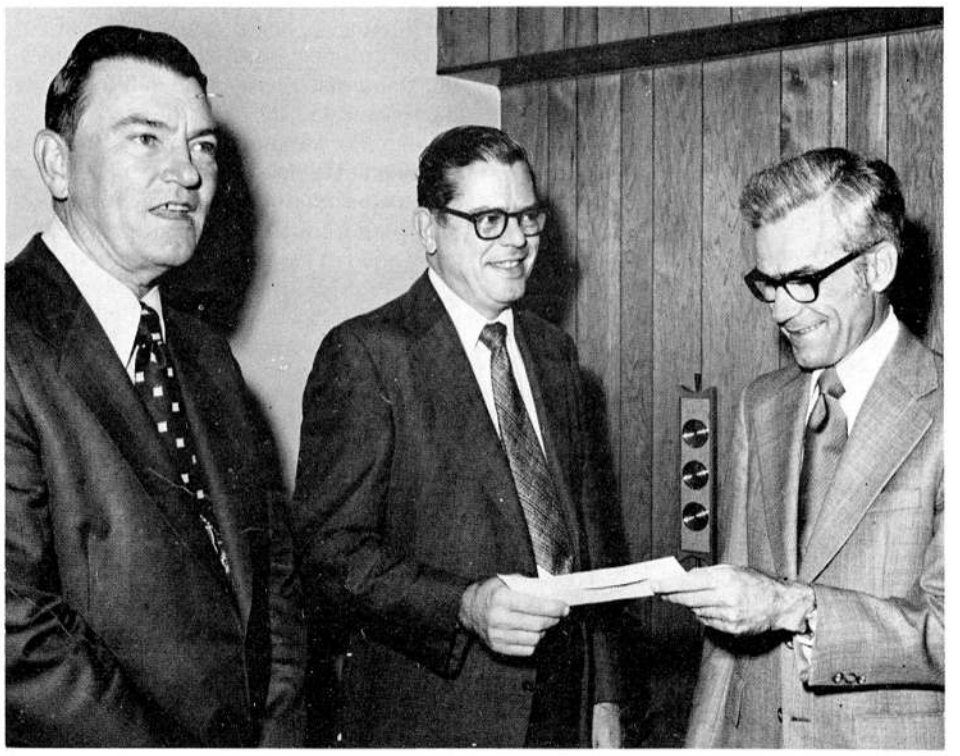
## Union Carbide declares capital stock dividend

The Board of directors of Union Carbide Corporation has declared today its 226th consecutive dividend. The amount is 52½c a share on the outstanding capital stock of the corporation, payable December 1, 1973, to stockholders of record November 2, 1973. The last quarterly dividend was 52½c a share paid September 4, 1973.

Payment of this quarterly dividend on December 1 will make a total of $2.07½ a share paid in 1973 on the outstanding shares of the corporation. In 1972, the total amount paid was $2 a share.

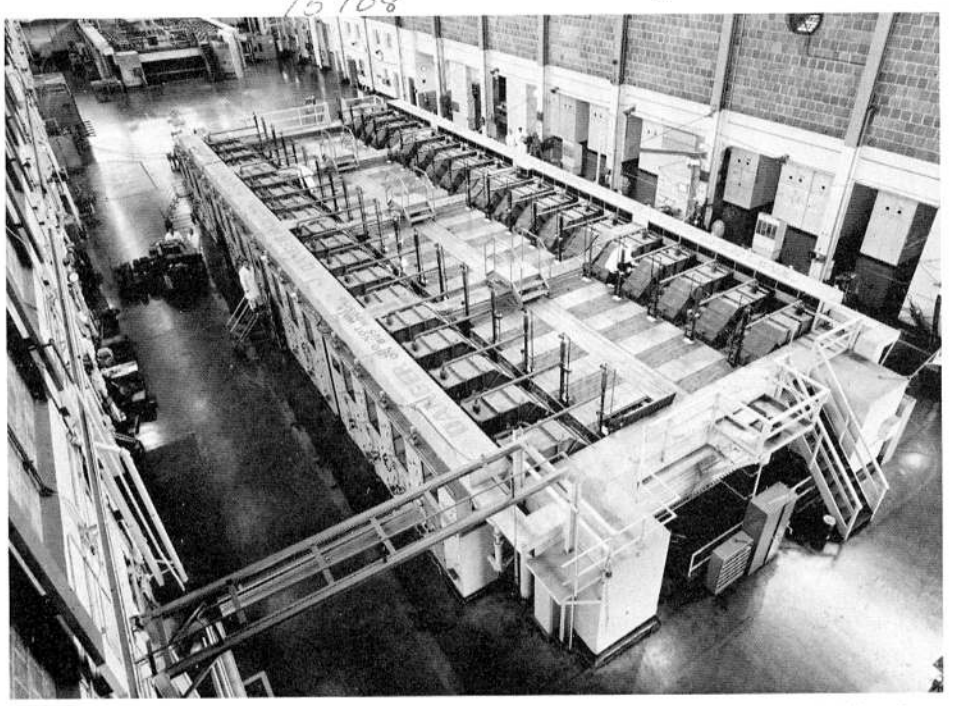
### Next Issue

The next issue will be dated December 6. The deadline is November 28.



*UNITED WAY GIFT PRESENTED — Roger F. Hibbs, President of the Nuclear Division, presents a check for $15,000 to James Young, Chairman of the Anderson County United Way campaign. The check represents Union Carbide's contribution to the United Way effort. From left are: Harold Osborne, Nuclear Division United Way chairman; Hibbs; and Young.*

# Calutrons: after 30 years, boon to medicine



*ELECTROMAGNETIC SEPARATORS — The calutron operation, probably the oldest production process within the Nuclear Division, has its 30th anniversary this month. These remaining electromagnetic separators, operated by ORNL, are located in Building 9704-1 of the Y-12 Plant.*

By R. L. Wesley

Thirty years ago this November, a few calutrons went into operation within the Oak Ridge Y-12 Plant to provide enriched uranium for the nation's first atomic weapons. They were the first of some 1,100 electromagnetic separators that would eventually be used in Y-12 as part of the Manhattan Project of World War Two.

Today, the few dozen calutrons remaining are operated by Oak Ridge National Laboratory and serve as the Western world's principal source of electromagnetically enriched stable and radioactive isotopes. Most of the isotopes are used in scientific research, principally physical measurements, although a number of others are used as target materials in nuclear reactors or cyclotrons for transformation into radiochemically pure, high-specific-activity radioisotopes.

### Peace-time transition

The transition from the separation of uranium isotopes to supplying a source of stable isotopes got under way late in 1945. By that time, it was pretty well established that the gaseous diffusion method of uranium separation was more advantageous for large-scale production of uranium-235 and a program was started to salvage the calutrons from eight of the ten buildings then in operation. When the salvaging operation was finished, the four separators in Bldg. 9731 (pilot plant) containing two "alpha" calutrons (48 in. radius) and two "beta" calutrons (24 in. radius) and one building containing 72 beta calutrons were all that were left. These separators were retained on a tentative basis to provide scientists a means of obtaining isotopically pure materials for experimentation and to perform research on the process.

The salvage operations included the return of 12,500 tons of the 14,700 tons of silver borrowed from the U.S. Treasury Department. The silver substituted for war-scarce copper in electrical conductors. The remaining tons of silver were kept for several more years until return to the Treasury Department in 1969.

### High purity separation

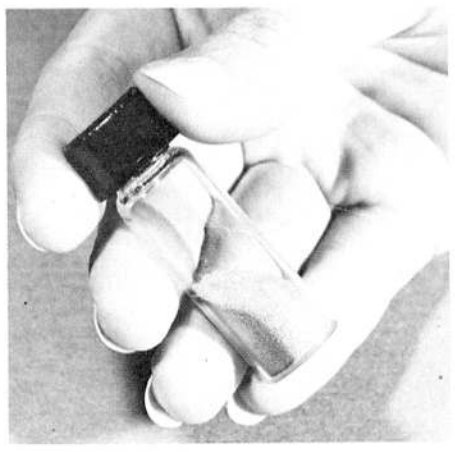
While it was never possible to make the calutrons competitive with the gaseous diffusion process, the machines soon demonstrated their ability to separate the isotopes of the multinuclidic elements in the periodic table to a purity never before thought possible. To date, the calutrons have separated over 200 kilograms of the isotopes of more than 50 naturally-occurring elements, in addition to research quantities of isotopes from the transuranium elements of plutonium, americium and curium. In many isotopic samples, the unwanted isotopes have been reduced to the level of a part-per-million, and occasionally to the part-per-billion level.

At present, 66 calutrons are available in two buildings in the Y-12 Plant, although only about 20 are used on a regular basis, according to Leon O. Love, who heads the Electromagnetic Isotope Separations Department. The separated material has two principal customers. One is the AEC, which maintains a $20 million pool of isotopes from which the AEC laboratories borrow about $5 million annually for fundamental research projects. In addition, medical programs and university studies provide a steady market for about two dozen of the isotopes. This outlet annually accounts for over $1 million in sales throughout North America and Europe. Total sales of stable isotopes, both foreign and domestic, amounted to over $1.5 million during the last fiscal year.

### Diagnostic tools

Much of the isotopic material is sold to customers for irradiation and subsequent use in hospitals and clinics as diagnostic tools. According to Love, "Several hundred hospitals are equipped for scanning today, compared to none just 10 years ago. The large medical centers, such as Johns Hopkins Hospital, will perform several thousand radioisotope scans per year."

The scanning technique usually involves the injection of a short-lived radioisotope that tends to settle in a specific organ of the body. A radiation scanning machine is used to draw a "map" of the distribution of the radioisotope in the organ. Skilled interpreters of these scanning maps can locate tumors in the patient by the way the radioisotope is distributed. Frequently, such scans prove valuable in locating tumors in places where conventional x-rays could not be used or could not provide an accurate picture.



*SMALL, BUT EXPENSIVE — This vial contains approximately four grams, $1,280,000 worth, of the isotope mercury-196. Mercury-196 is one of the best-selling isotopes used in nuclear medicine.*

### Best-selling isotopes

The best-selling isotope during a 12-month interval (FY-1973) from the standpoint of both quantity (419,700 milligrams) and income ($356,700) was molybdenum-98. When it captures a neutron, this isotope becomes molybdenum-99, which chances rather quickly into technetium-99m, useful in diagnostic scanning of the brain, lungs, liver and kidney.

The second best-seller in terms of income was mercury-196, an isotope originally separated in 1948, but the medical value of which was not discovered until 1965. It is a high-priced item because of its low natural abundance, only 0.15 percent. One calutron can provide only about two milligrams of this isotope per day. When this isotope absorbs a neutron, it changes to mercury-197, a radioisotope useful in scanning the brain or kidney.

Other popular isotopes used frequently in nuclear medicine include: tin-112, which becomes indium-113m, used in lymph system scans; calcium-46, which becomes calcium-47, used in bone scans; strontium-84, which becomes strontium-85, used in bone scans; zinc-68, which becomes gallium-67 via cyclotron bombardment, used in lymph system scans; and selenium-74, which becomes selenium-75, used in scanning the pancreas and thyroid.

Examples of other best-selling isotopes not associated with nuclear medicine are iron-57, used in Mossbauer-effect research in chemistry and physics, and cadmium-114, used in commercial laser work.

## 'Spot bid' sale scheduled for November 28 at ORGDP

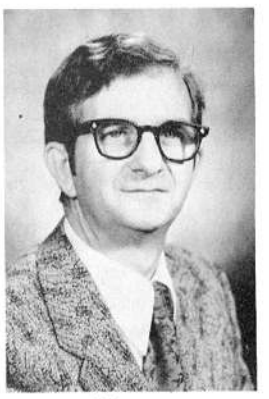
There will be a "spot bid" sale of used government-owned office equipment and vehicles on November 28, 1973. The sale will begin at 9 a.m.

Inspection may be made from 8:10 a.m. to 4:10 p.m., Mondays through Fridays, and Saturdays, November 10 to 17 (except Thursday and Friday, November 22 and 23). Inspection and sale are to be held at the Oak Ridge Gaseous Diffusion Plant, Power House area, Building K-722, off state route 58, Oak Ridge, Tenn.

Additional information may be obtained by writing to the Sales Office, Union Carbide Corporation, Nuclear Division, P.O. Box M, Oak Ridge, Tenn., 37830, or by contacting D.R. McCammon, Oak Ridge 483-8611, ext. 3-4601.

## PGDP's cascade operations promotes three employees

Emerson Dierolf



Watson

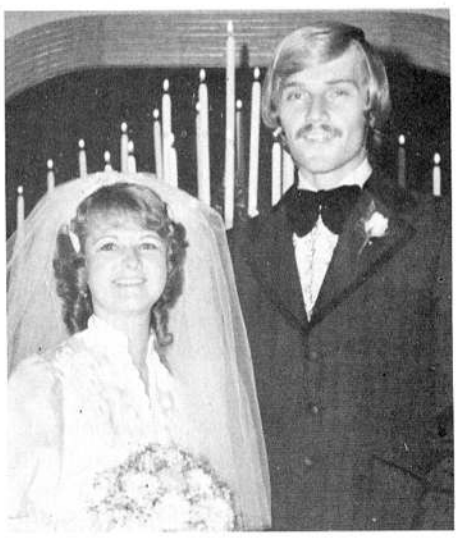
Three promotions in the Cascade Operations Division have been announced by George T. Hull, Division Superintendent, at the Paducah Gaseous Diffusion Plant.

Ronald K. Dierolf was named associate process engineer, and Thomas E. Emerson and Thomas H. Watson were promoted to process foremen.

Dierolf, a graduate of University of Missouri-Rolla with a B.S. degree in chemical engineering, is a recent graduate of the Infantry Officers Training, Fort Benning, Ga. Dierolf lives at 100 Lottie Court with his wife, Gail Lynn.

Emerson, a native of McCracken County, came to Union Carbide from Merchants Wholesale Company of Paducah. Emerson served in the South Pacific during World War II as a radio and radar specialist. He lives at 2414 Monroe St., Paducah, with wife, Lodine.

Watson came to the Paducah plant in 1955 after working in the retail grocery business in Sikeston, Mo. A native of Missouri, Watson lives on Route 4, Kevil, Ky., with wife Barbara, son Ricky, and daughter Gaylynn.



*VOWS EXCHANGED — Belinda S. Petty, ORNL's Chemical Technology Division, and Jerry R. Smith exchanged wedding vows at Mars Hill Baptist Church on October 6. After a brief honeymoon trip, the couple returned to their new mobile home at Route 20, Lobetti Road, Knoxville.*

# Energy saving steps listed by president

President Nixon last week spoke to the nation concerning the energy crisis. Some of the highlights of his speech follow:

—"There will be reductions of approximately 15 percent in the supply of heating oil for homes, offices and other establishments. To be sure there is enough oil to go around for the entire winter, it will be essential for all of us to live, and work in lower temperatures." He asked everyone "to lower the thermostat in his home by at least six degrees so that we can achieve a national daytime average of 68 degrees."

—"In offices, factories and commercial establishments, we must ask that you achieve the equivalent of a 10-degree reduction by either lowering the thermostat or curtailing working hours."

—The President ordered that the more than 500,000 federal vehicles be driven no faster than 50 miles an hour, except in emergencies.

—He asked the Atomic Energy Commission to speed the licensing and construction of nuclear power plants.

"We are allocating reduced quantities of fuel for aircraft. This will lead to a cutback of more than 10 percent in the number of flights and some rescheduling in arrival and departure times."

The President said he is seeking passage of an emergency energy act. Some of the provisions of the act include:

—Authorizing year-round daylight savings time.

—Authorizing the federal government to reduce highway speed limits throughout the nation.

—Permitting special energy conservation measures such as restrictions on the working hours for shopping centers and other commercial establishments.

The President said he is preparing plans for gasoline rationing only as a contingency plan.


### ORNL

RIDE or JOIN CAR POOL from Fairview School vicinity, Norris, to East Portal, 8 a.m. shift. Joyce Foster, plant phone 3-1203 or Norris 494-9683.

JOIN CAR POOL from Elm Grove-Jackson Square vicinity, Oak Ridge, to East Portal, either shift. Frances Hurley, plant phone 3-1612 or Oak Ridge 483-9944.

CAR POOL MEMBERS from Waddell, West Outer or Pennsylvania Avenue area, Oak Ridge, to East or North Portal, 8:15 a.m. shift. Tom Burnett, plant phone 3-6939 or Oak Ridge 483-1975; or Dick Reed, plant phone 3-1901 or Oak Ridge 483-3458.

CAR POOL MEMBER from Karns area to East Portal, 8 a.m. shift, John Groover, plant phone 3-6417 or Knoxville 584-2438.

### Y-12 PLANT

CAR POOL MEMBER WANTED from Cumberland Estates, Knoxville, to East or North Portal, straight day. S.T. Benton, plant phone 3-5615, or Knoxville 588-2540.

RIDE WANTED from Emory Valley Road to Central or West Portal, straight day. John Watkins, plant phone 3-5256, or Oak Ridge 483-8349.

CAR POOL MEMBER from Fountain City to East or North Portal, straight day. John Hurst, plant phone 3-7827, or Knoxville 687-9360.

RIDE WANTED from 300 block of West Outer Drive, Oak Ridge, to Bear Creek Portal, straight day. J. Irving, plant phone 3-7724.

### THE LAST WORD

The trouble with life, you're halfway through before you realize it's one of those do-it-yourself deals.

# Don't rob the future . . . Conserve energy now !

# Efficient use of transportation will aid in energy conservation

by Eric Hirst

The average American travels about 10,000 miles a year going to work and back, shopping, visiting friends and going on vacation. More than 90 percent of that mileage is traveled in automobiles, and most of the remainder is by airplane. Only small fractions of total travel are by train and by bus.

Transportation is a major user of energy in this country, accounting for one-fourth of the total energy budget and nearly 60 percent of domestic oil use. Airplanes and automobiles are the least efficient modes. As the table below shows, buses are five times as energy-efficient as airplanes, and mass transit is twice as efficient as automobiles. We use airplanes and cars so intensively because they are fast, convenient and comfortable.

### Shift in transportation modes

Energy use for transportation has grown steadily over the years. Much of this growth is because of increased traffic - annual passenger travel has more than doubled during the past twenty years. But part of the growth is due to shifts from energy-efficient modes to inefficient modes, and to general declines in efficiency for all modes (except trains).

Because of rising gasoline prices, oil scarcities, the need to import larger quantities of oil, air pollution from automobiles and a host of other problems related to transportation, there is a real need to examine energy requirements for transportation to see if we can't get from here to there in an acceptable manner with less energy.

Let's look first at the automobile since it accounts for so much of our travel (and of our transportation energy use). We could reduce fuel requirement for autos in a number of ways. Forming car pools to commute would improve auto occupancy from its rather low value of about two passengers per vehicle.

### Better use of autos

Scheduling the use of cars better so that short trips (which consume disproportionately large quantities of gas) are eliminated or reduced in number would save fuel. When it is time to buy a new car, look more closely at compacts and subcompacts. Buying smaller cars not only saves money at the time of purchase, but also reduces operating costs. For example, the annual savings in gasoline from buying a subcompact with 22 miles per gallon (mpg) instead of a full-size with 12 mpg is about $150. As gasoline prices increase, so will the savings!

### Why not walk?

Another way to reduce automobile energy use is to use other modes. For short distances, walking and bicycling are possibilities. In urban areas with adequate mass transit systems, buses and subways offer another option.

Thus, there are a number of ways in which individuals can make small changes in their lifestyles to reduce their personal transportation energy consumption. Probably the most important options are car pooling for work trips and purchasing small cars with small engines that obtain good gas mileage. These changes save money as well as energy.

ENERGY EFFICIENCY OF TRANSPORTATION MODES

| Urban | | Inter-city | |
|---|---|---|---|
| Mode | Energy Use (Btu/passenger-mile) | Mode | Energy Use (Btu/passenger-mile) |
| Bicycle | 800 | Bus | 1,600 |
| Bus | 3,700 | Railroad | 2,900 |
| Electric Transit | 4,100 | Automobile | 3,400 |
| Automobile | 8,100 | Airplane | 8,400 |

### BUS POOL

WANTED — Employees who are interested in forming a bus pool from Northeast Knoxville, Clinton Highway area to either portal at ORNL, 8 a.m. shift.

A few people have called to express an interest in the bus pool, but not nearly enough. Please consider this practical means of conserving energy.

Contact Fred Baes, plant phone 3-1464, or Knoxville 687-5675.

### PROCESS OF DISSOLUTION

"That community is already in the process of dissolution where each man begins to eye his neighbor as a possible enemy, where nonconformity with the accepted creed, political as well as religious is a mark of disaffection; where denunciation, without specification or backing, takes the place of evidence; where orthodoxy chokes freedom of dissent; where faith in the eventual supremacy of reason has become so timid that we dare not enter our convictions in the opens lists, to win or lose."

Justice Learned Hand

*GOLDEN SHOE CLUB — Malcolm B. Brister, a rigger and iron worker in the Plant and Equipment Division at ORNL, was recently awarded membership in the Golden Shoe Club. Brister was wearing safety shoes when a 40 pound concrete block struck his right foot. He suffered no damage to his foot. Harry E. Seagren, superintendent of the Division, is shown presenting Brister his certificate.*

# COMPANY Service 20 25 30

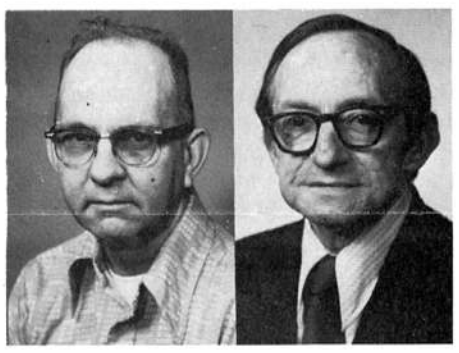
Y-12 PLANT
30 YEARS

Cox Cantrell

Everette C. Cox, who attained 30 years' service in September of this year, is a native of Clinton. He lives there now at Route 6, York St.

In addition, eight Y-12ers pass 30-year landmarks in late November.

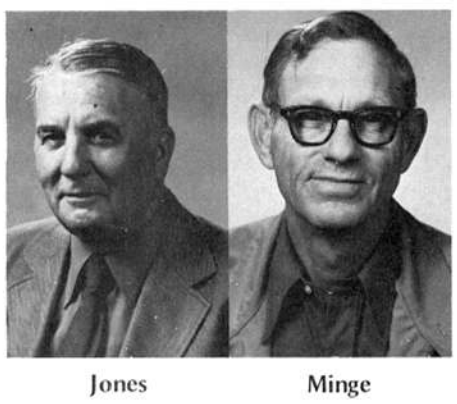
Robert T. Cantrell, Y-12's retirement counselor, Industrial Relations Division, is a native of Alexandria, Tenn. He lives in Oak Ridge at 114 E. Pasadena Road.



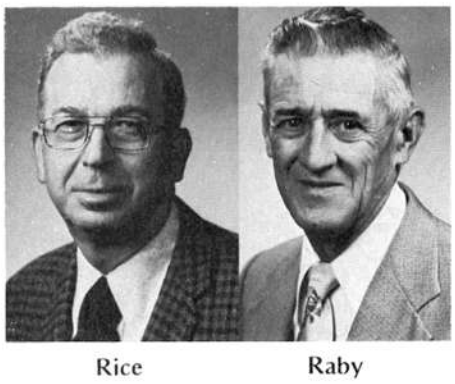
Hembree Heatherly

John S. Hembree of the Maintenance Division is a native of Harriman, Tenn., and lives there now on Route 4.

Product Certification's J. Lynn Heatherly lives at 5709 Blossom Drive, Knoxville. He is a native of LaFollette, Tenn., and received his A.B. degree from Lincoln Memorial University.



Jones Minge



Rice Raby

Clem Jones, Materials and Services, lives in Wartburg, Tenn. He is a native of Morgan County.

Willie S. Minge, who lives at Route 18, Ball Camp Pike, Knoxville, is in the Fabrication Division. He is a native of Lenoir City.

Hugh P. Rice Jr., timekeeping supervisor, is a native of Mendota, Va. Rice lives at Route 4, Clinton.

William E. Raby, of Metal Preparation, lives in Oak Ridge at 224 N. Purdue Avenue. He is a native of Byington, Tenn.

Strasser

George A. Strasser, Metal Preparation, lives at 106 Walton Lane, Oak Ridge. He received his B.S. degree from The University of Tennessee, the M.S. degree from Virginia Polytechnic Institute and attended Vanderbilt University. He is a native of Davidson County, Tenn.

25 YEARS

Paul L. McGinnis, John H. Neeley Jr., Clyde C. Carter and Charles R. Melhorn.

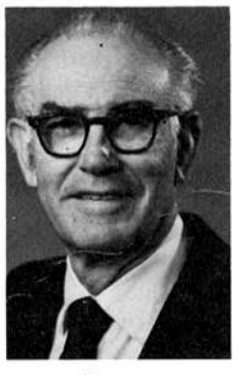
20 YEARS

Joseph P. Cavanaugh, Charles F. Klein, Newton R. Penland, Henry J. Tyl, William B. Goss, George W. Phipps, James K. Wattles, Elmer W. Weaver and Harry E. Shatley.

Robert G. Hill, Anen R. Brown, Jimmy W. Rolston, Joseph E. Boland, Mack L. Petty, Pierce G. Fleeman, Edwin E. Spradlen, Charles E. Jenkins and Claude J. Foxx.

James F. May, James O. Overton, Clyde F. Brewer, Sam F. Russell, Charles G. Wilson, Roy E. Melton, Alonzo A. Hinton, Charles A. Sparks, William V. Yaden, Owen C. Willard and Edward E. Hickman.

ORNL
30 YEARS



Love

Leon O. Love is superintendent of the electromagnetic isotope separations department of the Isotopes Division. Love has three children - twin daughters and a son. He and Mara Ellen, his wife, live at 119 Tabor Road, Oak Ridge.

PADUCAH
20 YEARS

B. Dale Johnson and James B. Hughes.

ORGDP
25 YEARS

Sylvester J. Jones and Irene I. Bush.

# Paducah holds second safety award drawing

*PADUCAH SAFETY AWARD COMMITTEE — The Safety Award Committee includes left to right: James E. Orazine, John P. Schneider, Howitt C. Mathis, Jeanette Schunck, Hugh G. Coltharp, Donald I. Maurer, Joe James and William C. Beasley.*

Drawings for safety awards were held recently at the Paducah Gaseous Diffusion Plant following completion of a second consecutive string of 180 days without a disabling injury.

Prior to the drawing Clyde C. Hopkins, Plant Superintendent, congratulated employees for an outstanding safety record and expressed confidence that Paducah would continue to have one of the best safety performance records in the corporation.

Winners in the drawing were:

Estle A. Emery, color TV console; Joseph W. Gorline, Kodak movie outfit; James Johnson, portable color TV; Clarence A. Fields, air rake and attachments; Raymond F. Naas, multi-band radio; Morris F. Shelton, set of luggage; and Coy O. Easley, portable 8-track stereo.

Robert E. Throgmorton and Earnest Griffin, digital calculators; B. Ralph Murphey, electric drill; Hubert C. Anderson, mechanics tool set; Richard W. Thompson, tape recorder/player; and C. Woody Herndon, Richard D. Galloway and James E. Alderdice, SunBeam mixers.

Clifford R. Adams, David W. Wallace and Harlan T. Kaler, pocket cameras; Harold F. Connor, Robert E. Clark and Barry B. Chapman, digital clock-radios; Robert A. Cole, Robert L. Walters and Ollie T. Griffin, Oster blenders; and C. David West, circular saw.

Virgil R. Osborne, drill; William H. Stokes and Charles H. Sears, sabre saws; Waldon Stokes and Howard L. Day, oven broilers; Jerry D. Crossett and William H. Henderson, tape recorders; Larry S. Fenwick, Michael R. Flood and Roger D. Chapman, radios; and James M. Cloyes, ice cream freezer.

# Nuclear Division Deaths

Mr. Allen

John Henry Allen, cascade foreman in the Operations Division at ORGDP, died October 26 at the Oak Ridge Hospital.

Mr. Allen had almost 40 years' service with Union Carbide, having first worked at Carbide and Carbon Chemicals Company in South Charleston, W. Va. He transferred to ORGDP in 1944.

He is survived by his wife, Mrs. Hazel Allen, 31 East Norris Rd., Norris; a son, John F. Allen; a sister; niece; nephew; and two grandnieces.

Services were held October 29 in the chapel of Holley-Gamble Funeral Home with the Rev. Troy Christopher officiating. Burial was in Norris Memorial Gardens.

FORMER ORNL EMPLOYEES

Two former ORNL employees died recently.

Hall R. McLean worked in the Information Division for over 13 years. He lived at 111 East Irving Lane, Oak Ridge.

Stanley E. Spencer, whose home is at Route 2, Lenoir City, worked in the graphic arts department for over 21 years.

Mr. Peaden

Glendon B. Peaden, an operator in Operations Division at the Oak Ridge Gaseous Diffusion Plant, died recently. Mr. Peaden had been with Union Carbide for 28 years.

His wife, Lucy Westbrook Peaden, lives at 1109 Welch Avenue, Loudon.

Funeral services were held at Karnes Funeral Home, Loudon.

## COMPANY Service 20 25 30

ORNL
30 YEARS

ORNL employees who chalked up 30 years of company service recently include the following.

Ted H. Rector is in the operations Division.

Neal D. Browder is a guard in the Laboratory Protection Division.

Mann Spainhour

Joseph E. Mann, Physics Division, is originally from McRae, Ga. He and Mary Ellen, his wife, have three daughters. They live at 101 Timothy Lane, Oak Ridge.

King A. Spainhour, Isotopes Division, is from North Wilkesboro, N.C. He enjoys fishing and hunting in his spare time. He and Yvonne, his wife, live at 246 North Tulane Avenue, Oak Ridge.

Raymond L. Newton works in the Operations Division. He and his wife, Irene, live at Route 5, Clinton.

Benton

Aaron Benton, Plant and Equipment Division, was born in Rome, Ga. He and Rossie, his wife, have three children. They reside at 2710 Lay Avenue, Knoxville.

Pomerance

Herbert S. Pomerance, Information Division, came to ORNL from Chicago, Ill. His main hobby during the 30 years has been playing the cello in the Oak Ridge Symphony Orchestra. He and Ellie, his wife, live at 104 Elena Lane, Oak Ridge.

### 20 YEARS

James B. Gheen, Lois H. Jordan, Robert Blumberg, Jack J. Campbell, Rex H. Walls, Albert J. Farmer, Wilbur R. Finnell, Kathren F. Stelzner, Frank E. Morris and William E. Clifton.

# Austin Read named to IC program staff

Austin M. Read

Austin M. Read, who has headed the Machining and Gaging Center at the Y-12 Plant since 1968, has been appointed to the staff of the Nuclear Division's Industrial Cooperation Program.

The IC Program, headed by Melvin E. Koons, is designed to encourage effective scientific, industrial and public use of unclassified information and technology originally developed in support of U.S. Atomic Energy Commission programs.

In addition to assisting Koons, Read will be responsible for the development of Industrial Cooperation Bulletins, which describe new products, processes and services developed in the Nuclear Division's four installations. These bulletins are issued quarterly to a mailing list of about 1,000 firms, installations and agencies.

Although most of the information contained in the bulletins is extracted from technical reports prepared in the four Nuclear Division installations, employees are encouraged to submit their ideas to Read in Bldg. 9704-2, Y-12, or to installation IC representatives. They are: J. Paul Blakely, ORNL; George W. Mitchel, Y-12; William E. Rooks, ORGDP; and Jack C. Gillespie, PGDP.

A native of Brownsville, Tenn., Read is an engineering graduate from The University of Tennessee and a veteran of the U.S. Army. He joined the Nuclear Division in 1951. He is married to the former Faye Skeen and lives at 5313 Clairidge Road, Knoxville. They have two sons.


savenergy

NUCLEAR DIVISION NEWS

UNION CARBIDE

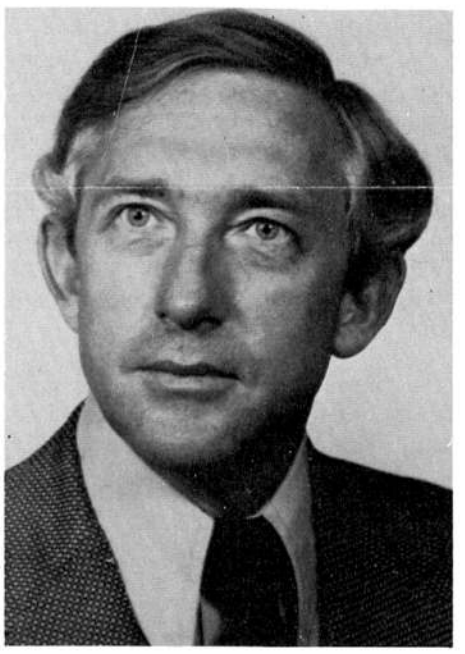
Published twice-monthly for
The Employees Of
UNION CARBIDE CORPORATION
NUCLEAR DIVISION

James A. Young, Editor, Y-12
Ext. . . . . 3-7100
Ruby Miller, Assoc. Editor, ORNL
Ext. . . . . 3-6421
Keith Bryant, Paducah
Bell . . . . . .369
Doug Carter, ORGDP
Ext. . . . . 3-3017

—Member—
APPALACHIAN INDUSTRIAL
EDITORS' ASSOCIATION
INTERNATIONAL ASSOCIATION OF
BUSINESS COMMUNICATORS

Office
Post Office Box Y
Oak Ridge, Tenn. 37830

# ORNL's John Faulkner elected fellow of APS



John S. Faulkner

John S. Faulkner, leader of the theory group in the Metals and Ceramics Division at ORNL, has been elected to fellowship in the American Physical Society.

Faulkner received his doctorate degree from Ohio State University, where he studied theoretical solid state physics under Professor Jan Korringa. He taught in the physics department at the University of Florida before joining the ORNL staff in 1962.

Faulkner is well known for his theoretical studies of the electronic states of ordered and disordered solids. In 1968, he was awarded a Fulbright Senior Research Fellowship, which enabled him to spend a year at the University of Sheffield in England. He has lectured extensively in England and Europe. Faulkner has authored and coauthored numerous technical papers.

Faulkner resides in Oak Ridge with his wife, Mary Alice, a son and a daughter.

---

Reflect upon your present blessings, of which every man has many; not on your past misfortunes, of which all men have some.

—Charles Dickens

# ANS presents radiation industry award to Rupp

Arthur F. Rupp

Arthur F. Rupp has been presented the Radiation Industry Award by the American Nuclear Society. The award, which consists of $1000 cash and a certificate, was presented at the ANS Winter meeting in California recently.

The certificate cites Rupp's pioneering role and outstanding leadership in all phases of radioisotope development including production, separation, purification and utilization.

Rupp recently retired as director of the Isotopes Production Program at ORNL. However, he continues to be an active consultant.

During his tenure at ORNL, Rupp made vital contributions to the production of radioisotopes from stable target materials; to the separation and refinement of fission products; and to the improvement of isotope processing and shipping techniques. He exploited numerous methods for producing and processing isotopes; designed facilities in which large amounts of radioactive materials are handled; and stimulated interest in using radioactive materials in agriculture, medicine, industry and education.

Rupp was involved in the first production of nearly all radioisotopes used in industry and medicine and he continues to be the leading personality in the application of isotopes.

Rupp, who has a degree in chemical engineering from Purdue University, has many publications to his credit. He is a Fellow of the American Nuclear Society.

---

### THE LAST WORD

A girl may wear a golf outfit when she can't play golf and a bathing suit when she can't swim, but when she puts on a wedding gown she means business.

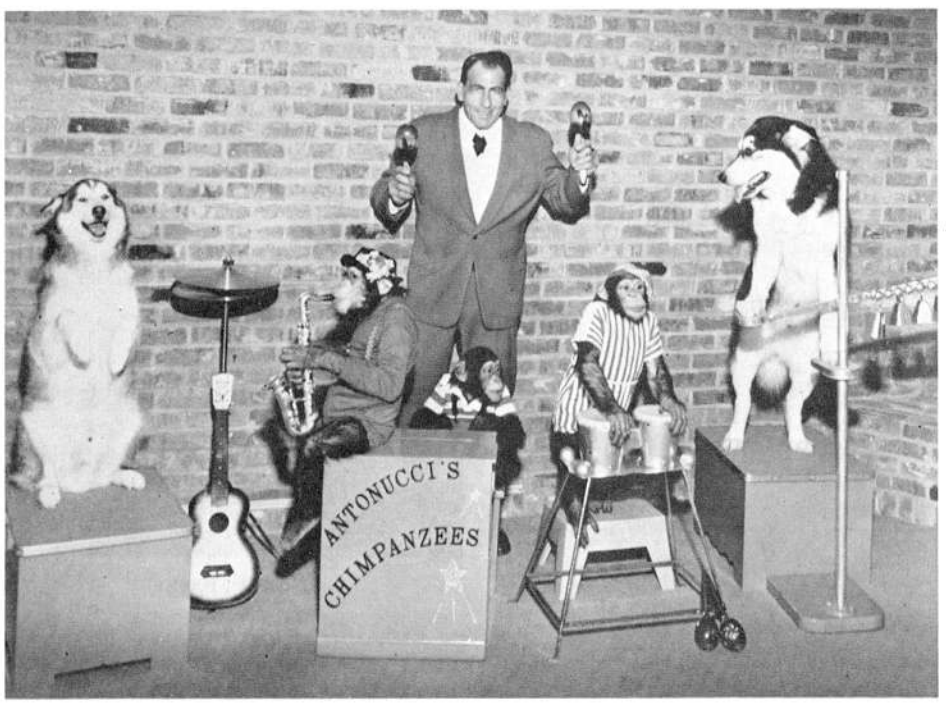
---

### THANKSGIVING HOLIDAYS

**What with the price of turkeys, there may not be a turkey on every table this Thanksgiving, but nonetheless all Nuclear Division employees will celebrate this national holiday Thursday, November 22. Also, Friday, November 23, is a Nuclear Division holiday. No employee will be required to be at work unless his presence is required for security or continuous operations.**

**Two holidays remain on the calendar for 1973 . . . Christmas . . . December 24 and 25.**

# RECREATIONOTES




*ANTONUCCI'S CHIMPS AND DOGS ACT — The main attraction for the Christmas party for children of Nuclear Division employees in Oak Ridge will be Antonucci's Chimps and Dogs Act.*

### PISTOL LEAGUE

The All-Carbide 22-Caliber Indoor Pistol League will begin its winter season on December 11.

Matches will be held each Tuesday evening from 6 to 8 p.m. at the Oak Ridge Sportsman's Association's indoor range. Any Carbide employee is eligible to participate in these matches.

Additional information may be obtained by calling R.C. Gwaltney, plant phone 3-7648.

### CLARK CENTER PARK

Water in rest room facilities at the Clark Center Park have been winterized to prevent freeze ups. However, camping and picnic permits will continue to be issued. Electricity and outdoor facilities are available in the camping areas.

### ORGDP'S CHRISTMAS DANCE

"A Holiday Happening" has been selected as the theme for the ORGDP annual Christmas dinner-dance. The Engineering Division, host for this year's festivities, invites all employees and their guests to the plant-sponsored event.

Tickets are available throughout the ORGDP complex. See announcement on this page for additional information.

### PADUCAH GOLF

A "separation" mixed scrabble golf tournament will be held December 15 at Paxton Park, Paducah.

The tournament will be held "come sleet or shine," according to the Paducah recreation department. Entries can be mailed or brought to the recreation department.

## APPLICATION FOR TICKETS

Requests **MUST** Be In By November 19

**CARBIDE CHILDREN'S CHIRSTMAS PARTY**

(For Children Ages 2–9)

**SATURDAY, DECEMBER 8, 9 A.M.**

ARCADE THEATRE, PADUCAH, KY.

Employee's Name _____ Badge No. _____

Home Address _____

(Please Print Street Address or RFD, City and Zip Code)

Number of your children who will attend the party (please list):

| (BOYS) | | (GIRLS) | |
|---|---|---|---|
| NAME | Date of Birth | Name | Date of Birth |
| NAME | Date of Birth | NAME | Date of Birth |
| NAME | Date of Birth | NAME | Date of Birth |

List names, ages and sex of children very accurately. The information will be used to bring present records up to date.

NOTE: Fill out form completely and return as soon as possible, but not later than November 19, to the Recreation Office, Union Carbide Corporation, P.O. Box 1410, Paducah, Ky. 42001. Tickets will be mailed to parents at their home addresses.

### SKEET LEAGUE

Firing under penalty for previous wins were John Basler, ORNL, and Jack Case, Y-12, who scored 49.327 and 49.362, respectively.

Taking first place in October firings was G. J. Kwiecien, ORGDP, with a 49.327. D. Bullard and R.A. Allstun, both of Y-12, each scored a 49.156. Second and third place will be determined by a shoot-off.

### MISTLE–TOE BALL

The Paducah Dance Committee has announced that the Annual Mistle-Toe Ball will be held at the Jaycee Civic Center on December 28.

## Children's Christmas party in Paducah and Oak Ridge

The Nuclear Division will again sponsor its annual Christmas parties for children of employees in Oak Ridge and Paducah.

The party for Paducah children will be held Saturday, December 8, at 9 a.m., in the Arcade Theater. Children aged two through nine will enjoy cartoons and comedy films, as well as a visit from Old Saint Nick.

The party in Oak Ridge will be held Saturday, December 22. Antonucci's Chimps and Dogs Act will be featured, and cartoons will be shown. Santa Clause will also be on hand with lots of goodies.

Applications for tickets to both parties appear on this page. Employees at Paducah must return their applications to the Recreation Office by **November 19**. Oak Ridge employees will have until December 19 to get their requests in.

### ORNL BOWLING

The Misfits hold a commanding lead in the A League bowling, while the Ten Pins moved up to second place.

The Remkeys took over the number one spot in C League bowling, with the Damagers remaining in second place. Virg Johnson converted the "big 4" (4-6-7-10) split!

The Pick-Ups remain the leaders in the Ladies League, with the Strikettes losing their second place spot to the Hp-Ettes.

Tied for first place in the Carbide Family Mixed League are the Oops and Lucky Strikers. Hits and Misses are in third place.

### Y-12 BOWLING

The Classic League finds the Ridgers in the lead, with the Splinters taking over the number two spot.

The Sunflowers, who were tied for first in the C League, have taken the lead, with the Rounders moving into the second place slot.

The Splinters still maintain their lead in the Mixed League, with the Hits & Misses capturing second place.

### ORGDP BOWLING

The Tuesday League's All Stars took over the lead with the Double Xers falling into second place.

The Planners bowled their way into first place in the Wednesday League. The Sandbaggers and Demons are tied for second place. George Bullock took the weekly prizes with a high game of 256, and series of 706.

The ORGDP Women's League finds the Playoffs still in lead, with the Uptowners and Bowlettes tied for second.

## Application for Tickets To Christmas Parties

**FOR CHILDREN OF OAK RIDGE UNION CARBIDE EMPLOYEES**

**(AGES TWO-10 ONLY)**

**SATURDAY, DECEMBER 22**

Plant .....

Employee's Name ..... Badge No. .....

Home Address .....

Plant Address .....

Number of Tickets (Children) .....

Number of Tickets (Adults) .....

**— CHECK TIME PREFERRED —**

Friday, December 22 Only — 9 A.M. ..... 11 A.M. ..... 1:30 P.M. ..... 3:30 P.M. ..... 5:30 P.M. .....

Please check first and second choice (write in space "1" or "2") as only a limited number of tickets will be issued for each party. Preference will be given early applicants and if tickets for first choice are exhausted, tickets for second choice will be issued.

Return this form, properly and completely filled in, to the Carbide Recreation Office, Building 9711-5, Stop 1, Y-12 Plant. Please apply for tickets before December 19. The required number of tickets will then be mailed to parents at their home or plant addresses.

# Quick action for the heart attack victim

*(Editor's Note: Dr. Lincoln alternates his regular column with "The Medicine Chest," where he answers questions from employees concerning their health in general. Questions are handled in strict confidence, as they are handled in our Question Box. Just address your question to "Medicine Chest," NUCLEAR DIVISION NEWS, Building 9704-2, Stop 20, or call the news editor in your plant, and give him your question on the telephone.)*

**By T. A. Lincoln, M.D.**

Three hundred and fifty thousand heart attack victims die each year outside the hospital. The elaborate coronary care facilities available in most hospitals have reduced the death rate for the approximately 40 percent who survive long enough to reach a hospital. Efforts to improve survival will have to be devoted to the majority who have their attack at home, at work or on the street.

The public needs to be educated on the early warning symptoms and the importance of seeking help immediately. Monitoring devices and defibrillation equipment need to be installed in all emergency vehicles staffed by emergency medical technicians who are trained in their use. Many more lay people need to be trained in the performance of cardiopulmonary resuscitation (mouth to mouth respiration and closed chest cardiac massage).

### Median time interval

In a frequently quoted study performed in Belfast, Northern Ireland, the median time interval from the onset of the attack to sending for medical aid was one hour and 17 minutes for men and one hour and six minutes for women. Of almost 600 who died before reaching a hospital, 23 percent were known to have survived for more than half an hour, 18 percent more than an hour, and 14 percent more than two hours. Drs. R.H. McNeilly and John Pemberton of Queen's University found that only about 25 percent of the people having heart attacks did not survive long enough for an ambulance to get to them if help had been summoned immediately.

In another often quoted Belfast study, Drs. J.F. Pantridge and A.A. Adgey found that out of 100 cardiac arrest cases who had not received cardiopulmonary resuscitation within four minutes, only one survived. Out of 44 who had efficient resuscitation and defibrillation performed in the first four minutes, 88 percent survived. It is obvious that defibrillation cannot be postponed until the patient arrives at the emergency room. It must be performed where and when fibrillation occurs. Even though efficient cardiopulmonary resuscitation is performed promptly, delaying defibrillation 10 to 20 minutes until the patient is brought to the emergency room greatly reduces the chance of survival.

### Don't ignore signs

Many people who have clear warning signs wait precious minutes before alerting their spouses, friends, or fellow workers that they are in trouble. Warning symptoms frequently occur during the night and the victim does not wish to alarm his or her spouse. The victim may hope the symptoms only represent "indigestion" and will go away. Often he (or less often, she) will sit on the edge of the bed for many priceless minutes before blurting out that help is needed. Sometimes a trip is made to the bathroom to get an antacid or to the kitchen for some baking soda. Often getting up and walking around is hoped will relieve the symptoms. Opening the window will be used to get fresh air to help reduce the smothering sensation.

All these delays may be disastrous. Usually the spouse, the family, friends, work associates, or almost anyone else, is far better to appraise the potential gravity of the situation than the victim himself.

### Symptoms described

The pain, or discomfort since it may not be severe enough to be interpreted as "pain", is usually in the middle of the chest, behind the breast bone or across the chest. It is typically dull and not sharp or knife-like. It may spread into other areas in the upper part of the body such as the neck or arms.

When the victim alerts those nearest to him that he is in trouble, the next problem is deciding what to do. Often much time is wasted trying to contact the family physician. The phone may be busy, he may be out of his office or away from his home. Sometimes a call is made to a neighbor who comes rushing over. The result is often increasing confusion.

### What to do

Here is what you should do if you believe you may be having a heart attack. If it occurs during the day and your symptoms are not severe, go or be taken immediately to a hospital emergency room. If the pain is severe, you are short of breath, are weak and sweating profusely or if the attack occurs at night, call an ambulance. When alone, especially if traveling, call for help at once even though symptoms are not severe. If driving, go to the nearest hospital or stop and ask for help. If at work, call the plant ambulance or be taken to the dispensary if it is open.

Men, especially, are proud and sensitive about their health. They can not face admitting that they may be in trouble. When one's life may be on the line, taking chances because of pride is the ultimate folly. Seek help! Run the risk of being wrong!

# Patents granted

To Paul A. Haas, Don E. Ferguson and Rex E. Leuze, ORNL, for "Quantitative Recovery of Krypton from Gas Mixtures Mainly Comprising Carbon Dioxide."

To Joseph P. Callahan, ORNL, for "Cell for Measuring Stresses in Prestressed Concrete."

To James S. Johnson Jr., ORNL, for "Dual-Layer Hyperfiltration Membrane and Process for Using Same."

To Perry R. Stout and William C. Yee, ORNL, for "Method for Growing Edible Aquatic Animals on a Large Scale."

To James C. Mailen and Leslie M. Ferris, ORNL, for "Separation of Californium from Other Actinides."

# Earlywine and Watson get ORGDP promotions

PH 73-2675 PH 73-2674

Earlywine Watson

Two recent promotions have been announced at the Oak Ridge Gaseous Diffusion Plant. Charles E. Earlywine, Engineering Division, has been named assistant design engineer and Cecil A. Watson of the Fabrication and Maintenance Division has been promoted to maintenance foreman.

Earlywine, a native of Flemingsburg, Ky., received his B.S. degree in electrical engineering at the University of Kentucky. He joined Union Carbide in 1973.

He is married to the former Cathy Payne, and they have two children. The family lives in the Holiday Haven Trailer Court, Route 3, Kingston.

Earlywine enjoys basketball, softball and golf.

Watson, who worked in construction before joining Union Carbide 28 years ago, is a native of Ashland, Ala.

He is married to the former Vivian Sheriff who also works at ORGDP as a nurse. The couple lives at Route 6, Concord, Tenn., and they have two children. Son, Michael, is an interior designer in Los Angeles, and daughter, Annette Peacock, lives in Melbourne, Fla.

Watson lists as hobbies gardening, fishing, football and baseball.

# ORNL's Bertini to visit joint research institute

Hugo W. Bertini, Neutron Physics Division at ORNL, has been invited for a 10- to 15-day visit to the Joint Institute for Nuclear Research at Dubna in the Soviet Union.

He will discuss heavy-ion reactions and intranuclear-cascade calculations with Professors V.S. Barashenkov and V.D. Toneev at the KINR, and will give seminars on the same subjects.

Bertini

The work on heavy-ion reactions was done in collaboration with Tony A. Gabriel and Robert T. Santoro, Neutron Physics Division; O. William Hermann and Nancy Larson, Computer Sciences Division; and Judson Hunt, an ORAU trainee.

Bertini also plans to present seminars at the University of Moscow and the Institute of High Energy Physics at Protvino (site of the Serpukhov synchrotron), during his stay in Russia.

The trip, which is scheduled for early December, will include visits and lectures at the Institute of Nuclear Physics in Orsay, France, and the Soreq Institute in Israel.

# Calendar of EVENTS

TECHNICAL

November 19

Biology Division Seminar: "Synthesis of Bacteriophage T4 tRNA's," John Ableson, University of California. Tower I Conference Room, Building 9207, 12:15 p.m.

Biology Division Seminar: "Study of Differentiation by the Use of Clonal Mammalian Cell Culture," M. Edward Kaighn, W. Alton Jones Cell Science Center, Lake Placid, N.Y. Tower I Conference Room, Building 9207, 3 p.m.

November 27

University of Tennessee Department of Chemistry General Seminar: "Condensed Phase Isotope Effects," Professor Alexander Van Hook. 414 Buehler Hall, UT campus, 4 p.m.

COMMUNITY

November 18

Art Center Film Club presents: "Two Women," Italy, 1961. Admission: adults $1.50; students $1.

# Bolton invited to be member of industrial hygiene group

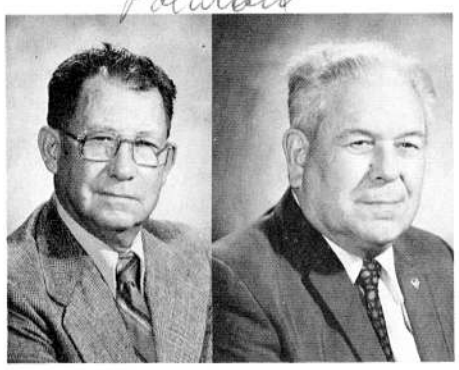
Newell E. Bolton

Newell E. Bolton, Health Division at ORNL, has been invited to become a member of the Industrial Hygiene Roundtable. The IHR is composed of industrial hygienists of national repute who meet once a year for fellowship and serious discussion. Membership is limited to 35, and only people who have made significant contributions in the field of industrial hygiene are invited to join.

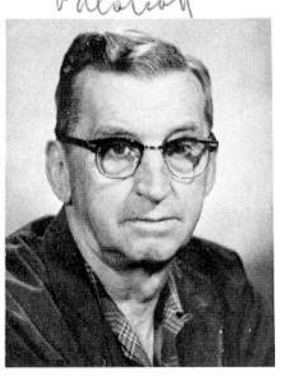
Bolton joined the Carbide staff in 1952. He worked at ORGDP and the Technical Center in South Charleston, W. Va., before coming to ORNL in 1961. He has a degree in chemistry from the University of Georgia, and is certified in comprehensive practice by the American Board of Industrial Hygiene. Bolton is currently an adjunct professor of civil engineering at the Tennessee Technological University in Cookeville.

At ORNL, Bolton heads the industrial hygiene department. His department was recently given responsibility for all industrial hygiene surveillance of ORNL divisions located at Y-12 and the Molecular Anatomy Program at ORGDP and Rockville, Md. The department is currently undertaking a review of all ORNL operations to identify and establish needed industrial hygiene programs.

# Division Retirees



McElroy Rufli



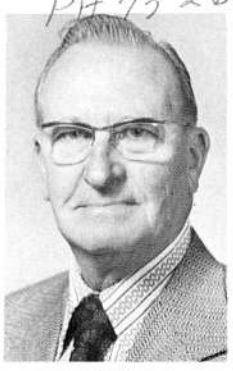
Ross

Three long-time Paducah Gaseous Diffusion Plant employees have retired:

J.D. McElroy, a member of the Plant's guard force, came to the plant protection group from F.M. McGraw Construction Contractor in 1955. He is a veteran of World War II and lives on Cold Spring Road with his wife, Lucille.

Barney M. Ross, operator in the Chemical and Power Utilities Division, retired October 31. He came to the Paducah plant in 1952 from the Illinois Central Railroad. Ross served as a radio operator during World War II. He lives on South 11th St., Paducah, with his wife, Maggie.

Henry E. Rufli, materials department supervisor, also retired October 31 with more than 22 years of company service. Rufli came to Union Carbide from the retail hardware business in Metropolis, Ill. He lives with wife Edith at 1020 Ferry St., Metropolis.



Hill

John W. Hill, engineering draftsman in the Engineering Division at ORGDP, is retiring at the end of November.

Hill first joined Union Carbide at the Y-12 Plant in 1951, and transferred to ORGDP in 1964. He lives at 5413 Neilwoods Drive, Knoxville.

Taking early retirement at the end of October was Thomas H. Coleman of Y-12's Fabrication Division. He was a machining foreman in the Beta-4 Heavy Machine Shop.

Coleman lives at 102 Sheridan Circle, Oak Ridge.

Roscoe S. Pressly retired from ORNL at the end of October. Pressly recently celebrated his thirtieth anniversary with the company.

### THE LAST WORD

Some of our new medicines are so powerful you have to be in good health to take them.

If the safety pin had been invented today instead of long ago, it would have six moving parts, two transistors and require a serviceman.

*FLORIDA STATE SENATOR — Lori Wilson is the first woman to be elected to the Florida Senate. Her father, Lloyd R. Bryson, works in the Plant and Equipment Division at ORNL. Senator Wilson has received many "good government" awards, and a park at Cocoa Beach has been named in her honor. She attended school for eight years in Oak Ridge and is a graduate of Powell High School. Senator Wilson, center, is shown with her parents following the election.*

## PATENTS Granted

To Edward S. Bettis, Orville L. Smith, Alfred M. Perry and Herbert G. MacPherson, ORNL, for "Single Fluid Molten Salt Nuclear Breeder Reactor."

To John D. Sease and James G. Stradley, ORNL, for "Manufacture of Bonded-Particle Nuclear Fuel Composites."

To Herschel W. Godbee and Roy C. Lovelace, ORNL, for "Method for Storing Radioactive Combustible Waste."

To Joseph J. Asbury, Y-12, for development of a "Method for Producing Porous Metal Products."

To John H. Pashley, Michael J. Stephenson, David I. Dunthorn, ORGDP, and James R. Merriman, now at Paducah, for development of "Process for the Separation of Components from Gas Mixtures."

## QUESTION BOX ? ?

(Continued from page 1)

stenographic skills. While they had the qualifications to do the job they were assigned to, they did not have the stenographic skills that were required to do general office work; therefore, we found ourselves in a position of having a surplus of clerical personnel that lacked stenographic qualifications. On the other hand, there has not been a surplus of stenographic-type employees. Had any of the people who were terminated on RIF been qualified to do general office work, they would not have been eligible for nor approved for RIF benefits. They would have been reassigned to one of the open positions.


*DISTINGUISHED PERFORMANCE — The Assembly Division in Y-12 was recently awarded a "Distinguished Safety Performance" award for operating 10 years without a disabling injury. The division also has a 0.0 serious injury frequency for calendar year 1972; the last serious injury being sustained on January 17, 1972. Jack M. Case, Y-12 plant superintendent, left, presents H. H. Stoner, division head, the safety plaque.*

UNION CARBIDE
**UNION CARBIDE CORPORATION**
NUCLEAR DIVISION
P. O. BOX Y, OAK RIDGE, TENNESSEE 37830

ADDRESS CORRECTION REQUESTED

BULK RATE
U.S. Postage
PAID
Union Carbide
Corporation